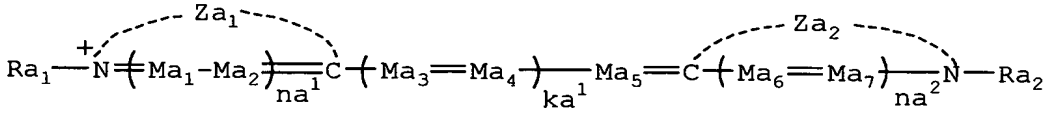
WHAT IS CLAIMED IS:

1. A non-resonant two-photon absorbing material comprising a methine dye undergoing a non-resonant two-photon absorption.

2. The non-resonant two-photon absorbing material as claimed in claim 1, wherein the methine dye is at least one selected from the group consisting of a cyanine dye, a merocyanine dye and an oxonol dye.

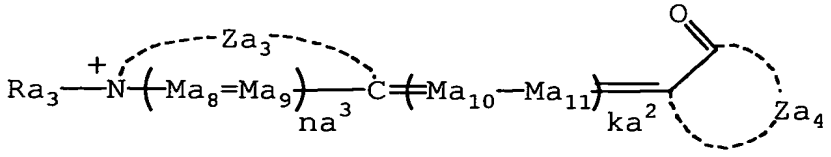
3. The non-resonant two-photon absorbing material as claimed in claim 2, wherein the cyanine dye, the merocyanine dye and the oxonol dye are represented by the following formulae (1), (2) and (3), respectively:

Formula (1):



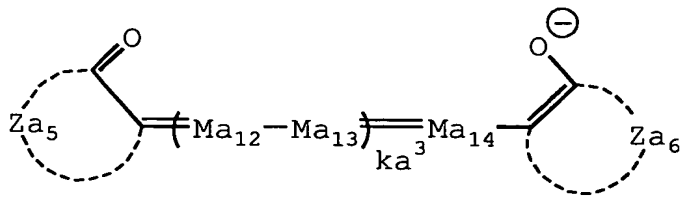
CIy

Formula (2):



CIy

Formula (3):

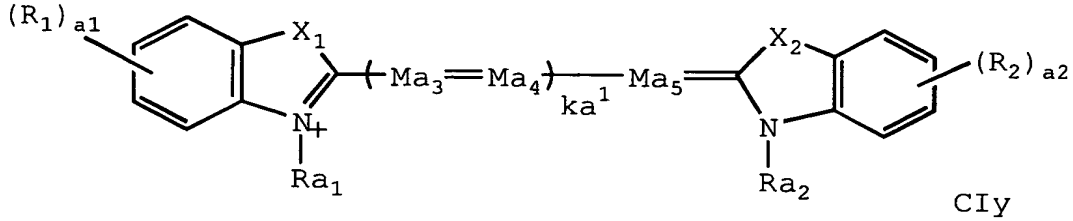


CIy

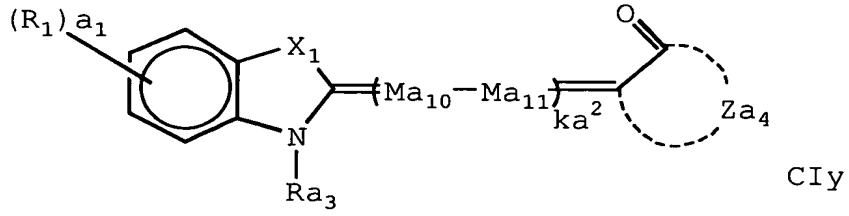
wherein Za_1, Za_2 and Za_3 each represents an atomic group for forming a 5- or 6-membered nitrogen-containing heterocyclic ring, Za_4, Za_5 and Za_6 each represents an atomic group for forming a 5- or 6-membered ring, Ra_1, Ra_2 and Ra_3 each independently represents a hydrogen atom, an alkyl group, an alkenyl group, an aryl group or a heterocyclic group, Ma_1 to Ma_{14} each independently represents a methine group, which may have a substituent or may form a ring together with another methine group, na^1, na^2 and na^3 each represents 0 or 1, ka^1 and ka^3 each represents an integer of 0 to 3, provided that when ka^1 is 2 or more, multiple Ma_3s may be the same or different and multiple Ma_4s may be the same or different and when ka^3 is 2 or more, multiple Ma_{12}s may be the same or different and multiple Ma_{13}s may be the same or different, ka^2 represents an integer of 0 to 8, provided that when ka^2 is 2 or more, multiple Ma_{10}s may be the same or different and multiple Ma_{11} may be the same or different, CI represents an ion for neutralizing the electric charge, and y represents a number necessary for the neutralization of electric charge.

4. The non-resonant two-photon absorbing material as claimed in claim 3, wherein the cyanine dye, the merocyanine dye and the oxonol dye are represented by the following formulae (4), (5) and (6), respectively:

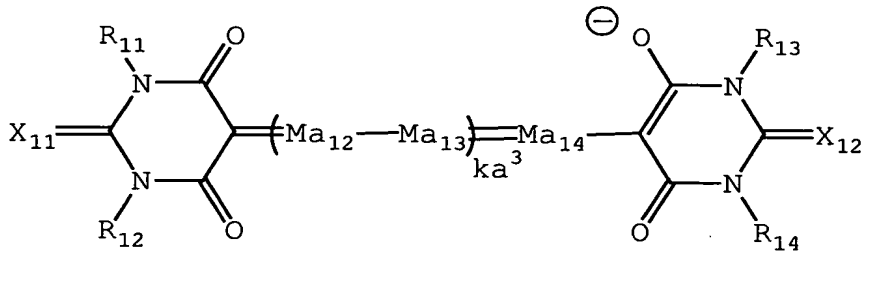
Formula (4):



Formula (5):



Formula (6):



wherein in formula (4), Ra_1 and Ra_2, Ma_3 to Ma_5, ka^1, CI and y have the same meanings as in the formula (1), X_1 and X_2 each independently represents -O-, -S-, $-NR_3-$ or $-CR_4R_5-$, R_3, R_4 and R_5 each independently represents a hydrogen atom, an alkyl group, an alkenyl group, an aryl group or a

heterocyclic group, R_1 and R_2 each independently represents a substituent, and a1 and a2 each independently represents an integer of 0 to 4, provided that when a1 and a2 each is 2 or more, multiple R_1s may be the same or different and may combine with each other to form a ring and multiple R_2s may be the same or different and may combine with each other to form a ring;

in formula (5), X_1, R_3, R_4, R_5, R_1 and a1 have the same meanings as in the formula (4), and Ma_{10}, Ma_{11}, Ra_3, Za_4, ka^2, CI and y have the same meanings as in the formula (2), provided that when a1 is 2 or more, multiple R_1s may be the same or different and may combine with each other to form a ring; and

in formula (6), Ma_{12} to Ma_{14}, ka^3, CI and y have the same meanings as in the formula (3), X_{11} and X_{12} each independently represents either O or S, and R_{11} to R_{14} each independently represents a hydrogen atom, an alkyl group, an alkenyl group, an aryl group or a heterocyclic group.

5. The non-resonant two-photon absorbing material as claimed in claim 4, wherein at least one of X_1 and X_2 in the formula (4) represents -O- or $-NR_3-$.

6. The non-resonant two-photon absorbing material as claimed in claim 5, wherein X_1 and X_2 in the formula (4) both represent -O-.

7. The non-resonant two-photon absorbing material as claimed in claim 4, wherein R_1 and R_2 in the formulae (4) and (5) both represent a chlorine atom.

8. The non-resonant two-photon absorbing material as claimed in claim 3, wherein in the formulae (2) and (3), the ring formed by Za_4, Za_5 or Za_6 each is 2-pyrazolon-5-one, pyrazolidine-3,5-dione, rhodanine, indane-1,3-dione, thiophen-3-one, thiophen-3-one-1,1-dioxide, 1,3-dioxane-4,6-dione, barbituric acid, 2-thiobarbituric acid or coumarin-2,4-dione.

9. The non-resonant two-photon absorbing material as claimed in claim 4, wherein in the formula (5), the ring formed by Za_4, Za_5 or Za_6 each is 2-pyrazolon-5-one, pyrazolidine-3,5-dione, rhodanine, indane-1,3-dione, thiophen-3-one, thiophen-3-one-1,1-dioxide, 1,3-dioxane-4,6-dione, barbituric acid, 2-thiobarbituric acid or coumarin-2,4-dione.

10. The non-resonant two-photon absorbing material as claimed in claim 4, wherein X_{11} and X_{12} in the formula (6) both represent O.

11. A non-resonant two-photon absorbing material

comprising a dye undergoing a non-resonant two-photon absorption in the intermolecular aggregation state.

12. The non-resonant two-photon absorbing material as claimed in claim 1, wherein the methine dye undergoes a non-resonant two-photon absorption in the intermolecular aggregation state.

13. The non-resonant two-photon absorbing material as claimed in claim 1, wherein the dye undergoing a non-resonant two-photon absorption has a two-photon absorbing cross-sectional area δ of 1,000 GM or more.

14. A non-resonant two-photon emitting material comprising the dye undergoing a non-resonant two-photon absorption described in claim 1, wherein the dye undergoes a two-photon emitting.

15. A method for inducing a non-resonant two-photon absorption, which comprises irradiating the dye undergoing a non-resonant two-photon absorption described in claim 1 with a laser ray having a wavelength longer than the linear absorption band of the dye to induce a two-photon absorption.

16. A method for inducing a non-resonant two-photon

absorption, which comprises irradiating the dye undergoing a non-resonant two-photon absorption described in claim 1 with a laser ray having a wavelength longer than the linear absorption band of the dye and present in the range of 400 to 1,000 nm to induce a two-photon absorption.

17. A method for generating an emission, comprising irradiating the dye undergoing a non-resonant two-photon absorption described in claim 1, in which the dye undergoes a two-photon emitting, with a laser ray having a wavelength longer than the linear absorption band of the dye to induce a two-photon absorption and generate an emission.

18. An optical recording medium comprising the non-resonant two-photon absorbing material described in claim 1.

19. A three-dimensional volume display comprising the non-resonant two-photon absorbing material described in claim 1.

20. A three-dimensional stereolithography comprising the non-resonant two-photon absorbing material described in claim 1.